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EXAMINER	
WASHBURN, DANIEL C	
ART UNIT	**PAPER NUMBER**
2628	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/777,158	TOMLINSON ET AL.
	Examiner	Art Unit
	Dan Washburn	2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,21 and 22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,21 and 22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-17, 21, and 22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 8, 9, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Folk, II (US 2003/0142038) in view of Heidmann et al. (US 6,057,833), and further in view of Lopresti et al. (US 5,889,506).

As to claim 1, Folk describes a multimedia computing system, comprising: a remote control that accepts user input in order to carry out telestration on a display device (paragraphs 0015, 0016, and 0019-0021 describe input device 101, which is a battery powered handheld device that includes a touch screen and a stylus. A user is able to view a video stream broadcasting on a local display and overlay graphics onto the video stream using the touch screen and stylus. The graphics are then transmitted to a server 102, which processes the graphics and sends them to display device interface 103, which combines the graphics with the video stream and displays the composite image on a display device 104); and a video processor that receives instructions from the remote control (server 102 receives instructions from the input

device 101, processes the information, and then passes the information to display device interface 103 for further processing (paragraphs 0019-0021 and 0025). The server 102 and display device interface 103 are collectively considered the video processor of the system), the video processor comprising: a graphics application that telestrates in response to user input on the remote control (paragraphs 0019-0020 describe that the server 102 receives input from input device 101, processes the received graphic data, and sends the processed data to the display device interface 103 to be properly overlain onto the broadcasted video image received by the display device interface 103. Server 102 is considered a graphics application that telestrates in response to user input on the remote control); and a video processing engine that receives input from at least one video input source and receives telestrations from the graphics application, the video processing engine blending the telestrations with the input and outputting the blended data in substantially real time (paragraph 0025 describes that overlay mixer 98, which is part of the display device interface 103, combines the video outputs of the video decoder 52 (which originate from the cable video input source) and the computer graphics (telestrations) stored in on-screen display buffer 96 (which were originally generated by a user, passed to the server 102 for processing, and then stored in the OSD buffer 96). Thus, the display device interface 103 is considered a video processing engine that receives input from at least one video input source (external cable input, see Figure 3) and receives telestrations from the graphics application (telestrations are received from server 102, which is considered the graphics application), the video processing engine blending the

telestrations with the input and outputting the blended data in substantially real time (paragraph 0019 describes real time transmission of blended data)).

Folk doesn't describe that the remote control includes a plurality of buttons assigned to deck control, and a plurality of buttons assigned to telestration, where the graphics application telestrates in response to user input of telestration buttons of the remote control.

However, Heidmann describes a system and method for creating live and near-live graphics for television illustration (column 1 lines 66-67 and column 2 lines 1-24). Heidmann specifically describes a touch screen input device that allows a user to add graphics to a video signal (Figure 2). The touch screen includes a horizontal set of invisi-buttons 210, which allows a user to select predefined glyphs and add them to the video display (column 4 lines 47-67 and column 5 lines 1-12), and a vertical set of invisi-buttons 200, which gives the user play back control of the current video, where play back control commands include: play, stop, pause, rewind, step back, fast forward, and step forward (column 4 lines 47-58 and column 5 lines 31-45). The play back control buttons 200 are considered a plurality of buttons assigned to deck control, and the predefined glyph buttons 210 are a plurality of buttons assigned to telestration, where the graphics application telestrates in response to user input of telestration buttons of the touch screen control. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Folk a system and method that includes a plurality of buttons assigned to deck control, and a plurality of buttons assigned to telestration, where the graphics application telestrates in response to user input of telestration

buttons of the touch screen control, as taught by Heidmann, in order to improve the telestrator system described in Folk by allowing users to 'select and drop' predefined telestration animations, which enhances the aesthetic appearance of the display and enables a user to draw more quickly and accurately (column 5 lines 13-30). The on-screen play back controls further enhance a user's ability to create pleasing graphics as a user is able to create video graphics in a controlled environment and then broadcast the video with the included video graphics.

Folk in view of Heidmann doesn't describe an input control application that directly controls a plurality of dissimilar video playback input sources, via wireless and wireline connections, the control being in response to user commands resulting from user input of the deck control buttons of the remote control.

However, Lopresti describes a system and method that includes an audio/video control unit that is packaged as a set-top box designed for placement atop a television. The system includes a handheld remote control and the handheld remote control includes a digitizing writing surface on which the user may enter hand-drawn instructions using a suitable pen or stylus, which are subsequently displayed on a display device (column 1 lines 57-67, column 2 lines 1-38, and column 3 lines 59-67). Lopresti further describes that the remote control includes VCR and laser disc motion control buttons (column 4 lines 45-55) and describes that the audio/video control unit may be coupled to equipment such as a VCR, laser disc player, multimedia computer, and other media. These media are preferably connected to the audio/video unit by conventional cabling. The audio/video control unit thus operates as the audio/video

signal switching and processing center for the system. For example, if the user has selected the VCR as the source of the program content, the audio and video signals from the VCR are switched through the audio/video control and communicated to a display device. Whereas audio and video signal flow is routed between components using cabling, the control functions can be (but aren't necessarily) provided via an alternate link such as an infrared link. The audio/video control sends a command to a transponder and the transponder broadcasts the command to each of the components in the system. The infrared link is described as one possible way of communicating control signals between the various components in the audio/video control (column 5 lines 17-64). The audio/video control is considered an input control application that directly controls a plurality of dissimilar playback input sources (VCR, laser disc player, and multimedia computer), via wireless and wireline connections (cable connections and infrared communications), the control being in response to user commands resulting from user input of the deck control buttons of the remote control (e.g., the user is able to select the VCR as the source of the program content and then use VCR and laser disc motion control buttons to control the media within the VCR). It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Folk in view of Heidmann the system and method of an input control application that directly controls a plurality of dissimilar video playback input sources, via wireless and wireline connections, the control being in response to user commands resulting from user input of the deck control buttons of the remote control, as taught by Lopresti, in order to allow a user to easily control multiple playback devices using the same remote

control and the same playback control buttons on the remote control. The advantage of a single user interface that allows a user to control multiple playback devices is that a user is only required to learn one interface (the playback control buttons on the remote) and he or she can display and control the content in any of the connected playback devices. This simple and universal user interface allows a user to easily control newly connected playback devices and switch among connected playback devices by selecting the playback device of interest on the remote control. This is far more user friendly than requiring the user to keep track of multiple remote controls, where each remote control controls one playback device (or other device, such as the television or sound system) and each remote control provides the user with a unique user interface. Thus, the audio/video control unit and associated remote control described in Lopresti offers the advantage of a simple and user friendly system for controlling, and viewing the content of, a plurality of dissimilar video playback input sources.

Regarding claim 2, Folk describes a system further comprising an input/output (I/O) interface that communicates with a user input device (paragraphs 0018-0021 describes that the input device 101 wirelessly communicates with server 102. The server 102 then passes the information on to device interface 103, which sends the combined graphics and video signal to display device 104. The server 102 is considered an input/output interface that communicates with the user input device).

Concerning claim 3, Folk describes a system in which the I/O interface communicates with a mass storage device (paragraph 0021 describes that the server 102 of the device interface can be incorporated into a personal video recorder device,

thereby supplementing the traditional record and playback capabilities of the PVR by providing the capability to record the transmitted graphical data and overlain video image for playback at a later time. The server 102 is considered the I/O interface and the PVR is considered a mass storage device that the server 102 communicates with).

With regard to claim 4, Folk describes a system in which the video processing engine receives input from the mass storage device and overlays the computer graphics on the input received from the mass storage device in real-time (paragraph 0025 describes overlay mixer 98, which is part of the display device interface 103. The overlay mixer 98 combines the video outputs of the video decoder 52 and the OSD buffer (which contains the computer graphics input from a user) 96. Paragraph 0021 describes that the system is able to combine computer graphics input from a user over a live video stream or the system is able work with a PVR in order to record a video signal, record the corresponding transmitted graphical data from a user, and overlain the video image with the graphical data for playback at a later time. The display device interface 103, and specifically the overlay mixer 98, is considered to carry out the process of overlaying the recorded graphical data onto the recorded video signal; thus, the display device interface 103 is considered a video processing engine that receives input from the mass storage device (the PVR) and overlays the computer graphics on the input received from the mass storage device in real time).

As to claim 8, Folk in view of Heidmann doesn't describe a system in which the plurality of video input sources have a plurality of different control protocols.

However, Lopresti describes a plurality of video input sources (column 5 lines 17-22 describes that the audio/video control may be coupled to media equipment such as a VCR, laser disc player, and multimedia computer) and further describes that the plurality of input sources may have a plurality of different control protocols (column 5 lines 38-53 describes that while the audio and video signal flow is routed between components using cabling, the control functions can be (but aren't necessarily) provided via an alternate link such as an infrared link. The infrared link is described as one possible means of communicating control signals between the various components and the audio/video control. The described input sources are considered to potentially have a plurality of different control protocols as some of the input sources may use infrared communication protocol to communicate with the audio/video control while other input sources may use cable connections or some other means of communication (e.g., RF signals) in order to communicate control signals to and from the audio/video control). See the rejection of claim 1 for motivation to combine Lopresti with Folk and Heidmann, as the same motivation applies here.

Regarding claim 9, Folk in view of Heidmann doesn't describe a system in which the protocols comprise at least one of RS-232, RS-422, Control-M, LANC, and infrared.

However, Lopresti describes a system in which the protocol comprises infrared (column 5 lines 38-40 describes that control functions can be provided via an alternate link such as an infrared link). And further, if the control signals are routed to and from the input devices via cabling, then RETMA standard serial protocols such as RS-232 and RS-422 are likely candidates for the communication protocol. See the rejection of

claim 1 for motivation to combine Lopresti with Folk and Heidmann, as the same motivation applies here.

Concerning claim 15, Folk describes a system in which the user input device comprises a PDA comprising a client application that communicates with a host application within the system (paragraph 0017 describes that the input device 101 may be a PDA).

With regard to claim 16, Folk describes a system in which the blended data is stored as an image file (paragraph 0021 describes that the functionality of the server and the device interface can be incorporated into a PVR device, thereby supplementing the traditional record and playback capabilities of the PVR by providing the capability to record the transmitted graphical data and overlain video image for playback at a later time, which is considered blended data that is stored as an image file).

As to claim 17, Folk describes a system in which the system is portable (paragraph 0016 describes that the input device 101 is a portable battery-powered handheld device, which is considered portable, and paragraph 0021 describes that the server 102 and device interface 103 can be implemented in a set-top box or a PVR, which is also considered portable; thus, the system is considered portable).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Folk, II (US 2003/0142038) in view of Heidmann et al. (US 6,057,833), and further in view of Lopresti et al. (US 6,889,506), as applied to claims 1 and 2 above, and further in view of Kaminski et al. (US 6,744,967).

Regarding claim 5, the combination of Folk, Heidmann, and Lopresti doesn't describe a system in which the I/O interface is a USB interface.

However, Kaminski describes a digital home communication terminal (DHCT) (e.g., a set-top box) that is implemented as part of a subscriber television system, which includes digital broadcast delivery systems and cable television systems (column 3 lines 21-38 and column 9 lines 13-54). Kaminski further describes that the DHCT may also include one or more wireless or wired interfaces, also called communication ports, for receiving and/or transmitting data to other devices. For instance, the DHCT may feature USB, Ethernet, IEEE-1394, serial, and/or parallel ports. The user inputs may be, for example, provided by an input device such as a handheld remote control device (column 15 lines 66-67 and column 8 lines 1-10). It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Folk, Heidmann, and Lopresti the system and method in which the I/O interface is a USB interface, as taught by Kaminski, in order to give the user the option of communicating between the user input device and the I/O interface at the system using a higher speed communication protocol than could possibly be obtained using wireless transfer protocols. The advantage of using a high speed USB protocol, rather than the limited wireless transfer protocols described in the combination of Folk, Heidmann, and Lopresti, is that a user will be able to communicate a larger amount of information between the handheld input device and the I/O interface of the system in a shorter amount of time, which allows a user to create and send very complicated telestrations with a limited amount of delay.

Claims 6, 10-12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Folk, II (US 2003/0142038) in view of Heidmann et al. (US 6,057,833), and further in view of Lopresti et al. (US 6,889,506), as applied to claim 1 above, and further in view of Fang (US 2004/0257369).

As to claim 6, Folk describes a system in which the video processing engine comprises a dedicated logic circuit (paragraph 0022 describes server interface 62, which may be embodied in hardware, software, or a combination of the two. If server interface 62 is embodied in hardware then it is considered a dedicated logic circuit. Server interface 62 is within display device interface 103, which is considered the video processing engine of the system; thus, the video processing engine comprises a dedicated logic circuit) and at least one video decoder (MPEG2 video decoder 52, illustrated in Figure 3).

Folk in view of Heidmann and further in view of Lopresti doesn't describe that the system includes at least one encoder and a video buffer.

However, Fang describes a system that blends graphics and video and comprises at least one encoder and a video buffer. For example, Fang offers Figure 1, which includes an NTSC/PAL encoder 170, a video frame buffer 120, and a graphic and video frame buffer 150 (paragraphs 0014 and 0019). It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Folk, Heidmann, and Lopresti, the encoder and video buffer, as taught by Fang, in order to provide a means for buffering the video data until the graphics processor is ready to blend the video with graphics and encoding the video so it is compatible with a display device that requires

NTSC/PAL encoded data. The advantage of these added components is that the buffers will allow the system to process information with less delay and the encoder will allow the system to output information to a wider range of display devices.

Regarding claims 10 and 11, the combination of Folk, Heidmann, and Lopresti doesn't specifically describe a system in which the plurality of video input sources generate video streams having a plurality of different formats, in which the different formats comprise at least one of YUV, RGB, S-video, composite, VGA, and DVI.

However, Fang describes that the analog video input signal 190 (see Figure 1) that is input into the integrated video and graphics blender can be any one of composite (e.g., NTSC/PAL), S-video, or component video (e.g., RGB, YUV) (paragraph 0019). The video decoder described in Fang is able to decode any of the described input video signals. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Folk, Heidmann, and Lopresti the system and method wherein the plurality of input sources generate video streams having a plurality of different formats, in which the different formats comprise at least one of YUV, RGB, S-video, composite, VGA, and DVI, and the system is able to decode any of the described formats, as taught by Fang, in order to create a compositing system that is able to input a wider range of video signals, which makes the system compatible with a wider range of video input devices.

As to claim 12, Folk in view of Heidmann, and further in view of Lopresti doesn't describe a system that translates video from one of the formats to another of the formats.

However, Fang describes a system where an analog video signal (e.g., composite, S-Video, or component video) is input and a video decoder converts this video data into digital video pixel data, which is then stored in the graphics processor's frame buffer (paragraph 0019). Fang later describes that this video signal can either be converted back to an analog NTSC/PAL signal (considered a composite signal) or it can be output as a digital RGB, VGA, or HDTV signal (paragraph 0026). The video decoder is considered to convert an analog composite video signal into a digital RGB, VGA, or DVI signal, and the video encoder is considered to convert a digital signal in to a composite analog signal, which is considered a system that translates video from one of the formats to another of the formats. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Folk, Heidmann, and Lopresti a system that translates video from one of the formats to another of the formats, as taught by Fang, in order to create a compositing system that is able input one of a wide range of accepted video input formats, and then output one of a wide range of output formats, where the output format is not the same as the input format. The advantage of this format conversion process is that a wide range of video input devices and video output devices can be used, where the format of the video signals of the video input device don't have to be the same as the format of the video signals of the video output device.

Concerning claim 14, Folk describes a system in which the video processing engine simultaneously outputs the blended data to a plurality of output devices (paragraph 0006 describes that the display device interface outputs a composite

graphics and video signal to at least one display device, which is considered to include simultaneously outputting blended data to a plurality of output devices).

Folk in view of Heidmann, and further in view of Lopresti doesn't describe that the blended data is output to a plurality of output devices in different formats comprising YUV, RGB, S-Video, composite, VGA, and DVI.

However, Fang describes an integrated video and graphics blender that includes multiple output ports, where each output port is flexibly designed to provide all possible display formats (paragraphs 0014-0015). Fang further describes that each output creates two outputs, either NTSC/PAL encoded signals, or RGB, VGA, or HDTV signals. The video switch 180 determines which of the two signals to output (paragraph 0026). The NTSC/PAL encoded signals are considered composite signals. They are also considered to include YUV signals. The HDTV signals are considered to include DVI and S-Video signals, as these are common ports found on HDTVs. Thus, Fang describes a video processing engine that simultaneously outputs blended data to a plurality of output devices in different formats comprising YUV, RGB, S-Video, composite, VGA, and DVI. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Folk, Heidmann, and Lopresti the system and method in which a video processing engine simultaneously outputs blended data to a plurality of output devices in different formats comprising YUV, RGB, S-Video, composite, VGA, and DVI, as taught by Fang, in order to create a compositing system that is able to output a wider range of video signals, which makes the system compatible with a wider range of video output devices.

Claims 7, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Folk, II (US 2003/0142038) in view of Heidmann et al. (US 6,057,833), in view of Lopresti et al. (US 6,889,506), in view of Fang (US 2004/0257369), as applied to claim 6 above (in the case of claim 7), and further in view of in view of White et al. (US 6,909,438).

Concerning claims 7, the combination of Folk, Heidmann, Lopresti, and Fang doesn't describe a video processing engine that comprises a dedicated logic circuit, where the dedicated logic circuit is a field programmable gate array (FPGA).

However, White describes a system of blending two images, such as a video source and a still image, which can be implemented wherein some or all of the software is replaced by a dedicated logic circuit, such as an FPGA (column 2 lines 61-66 and column 4 lines 1-13). It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Folk, Heidmann, Lopresti, and Fang the implementation option of using a field programmable gate array, as taught by White, in order to create a more efficient video processing device that is optimized to have a minimal delay in completing a set number of tasks while using a minimal amount of hardware.

With regard to claim 21, Folk describes a multimedia computing system, comprising: a central processing unit (CPU) (Figure 3 illustrates microprocessor 74, considered a CPU); an input/output (I/O) interface that receives user input via a wireless user input device in order to carry out telestration on a display device (paragraphs 0015, 0016, and 0019-0021 describe input device 101, which is a battery powered handheld

device that includes a touch screen and a stylus. A user is able to view a video stream broadcasting on a local display and overlay graphics onto the video stream using the touch screen and stylus. The graphics are then wirelessly transmitted to a server 102, which passes the graphics to a display device interface 103, which combines the graphics with the video stream and displays the composite image on a display device 104. The server 102 is considered an input/output interface); a graphics application that telestrates in response to user input on the user input device (paragraphs 0019-0020 describe that the server 102 receives input from input device 101, processes the received graphics data, and sends the processed data to the display device interface 103 to be properly overlain onto the broadcast video image received by the display device interface 103. Server 102 is considered a graphics application that telestrates in response to user input on the user input device), the graphics application interfacing with the CPU via an operating system (Figure 3 and paragraph 0022 describe server interface 62, which receives and processes the graphic data from server 102 via a communication module 134. The server interface may be embodied in hardware, software, or combination of the two. If the server interface is embodied in software then the server interface is considered an operating system for interfacing the CPU (in this case the microprocessor 74) with the graphics application (in this case the server 102)); and a video processing engine comprising at least one video decoder (MPEG2 video decoder 52, see Figure 3), a CPU interface (server interface 62, see Figure 3, is considered a CPU interface as it acts as an interface between the server 102 and the microprocessor 74), and a pixel processing engine that receives input from at least one

video input source via at least one of the video decoders and receives telestrations from the graphics application via the CPU and the CPU interface (server 102 receives telestrations from user input device 101, processes the telestrations, and sends them to the display device interface 103 via the server interface. The server interface is considered the CPU interface. The CPU then controls the information submitted to the server interface in order to pass the telestrations to the on screen display frame buffer 96 (paragraphs 0018-0022 and paragraph 0025), the pixel processing engine blending the telestrations with the received input and outputting the blended data in real time to multiple display devices (paragraph 0025 describes that overlay mixer 98, which is part of the display device interface 103, combines the video outputs of the video decoder 52 (which originate from the cable video input source) and the computer graphics (telestrations) stored in on-screen display buffer 96 (which were originally generated by a user, passed to the server 102 for processing, and then stored in the OSD buffer 96). Finally, paragraph 0006 describes that the display device interface 103 is connected to at least one display device, which means the display device interface can output the blended signal to multiple display devices simultaneously. Thus, the display device interface 103 is considered a pixel processing engine that receives input from at least one video input source (external cable input, see Figure 3) and receives telestrations from the graphics application (telestrations are received from server 102, which is considered the graphics application), the video processing engine blending the telestrations with the received input and outputting the blended data in real time

(paragraph 0019 describes real time transmission of blended data) to all connected display devices).

Folk doesn't describe that the user input device includes a plurality of buttons assigned to deck control, and a plurality of buttons assigned to telestration, where the graphics application telestrates in response to user input of telestration buttons of the user input device.

However, Heidmann describes a user input device that includes a plurality of buttons assigned to deck control, and a plurality of buttons assigned to telestration, where the graphics application telestrates in response to user input of telestration buttons of the user input device. See the rejection of claim 1 for a complete discussion of how Heidmann discloses the described limitations and motivation to combine Heidmann with Folk, as the same rejection and motivation applies here.

Folk in view of Heidmann doesn't describe an input control application that directly controls a plurality of different video playback input devices via wireless and wireline connections, the control being in response to user commands resulting from user input of the deck control buttons of the user input device.

However, Lopresti describes an input control application that directly controls a plurality of different video playback input devices via wireless and wireline connections, the control being in response to user commands resulting from user input of the deck control buttons of the user input device. See the rejection of claim 1 for a complete discussion of how Lopresti discloses the described limitations and motivation to

combine Lopresti with Folk and Heidmann, as the same rejection and motivation applies here.

Folk in view of Heidmann, and further in view of Lopresti doesn't describe that the video processing engine comprises a video buffer, a video buffer controller, and at least one video encoder, and doesn't describe that the blending of the graphics data and the video data incorporates an alpha channel to carry out alpha blending.

However, Fang describes a system that alpha blends graphics and video and comprises at least one encoder, a video buffer, and a video buffer controller (Fang offers Figure 1, which includes an NTSC/PAL encoder 170, a video frame buffer 120, a graphic and video frame buffer 150, and a 2D/3D graphics processor. The processor is considered the video buffer controller (paragraphs 0014 and 0019). Further, paragraph 0008 describes blending video and graphics data in the graphics frame buffer according to the alpha data. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Folk, Heidmann, and Lopresti, the encoder, video buffer, video buffer controller, and alpha channel for blending purposes, as taught by Fang, in order to provide a means for buffering the video data until the graphics processor is ready to blend the video with graphics, a means for controlling the video buffer so that data is moved in and out of the buffer in an efficient manner, a means for encoding the video so it is compatible with a display device that requires NTSC/PAL encoded data, and a means for alpha blending the graphics with the video signal so create a wider range of blending options. The advantage of these added components is that the buffers and buffer controller will allow the system to process information with

less delay, the encoder will allow the system to output information to a wider range of display devices, and the alpha channel component will allow for translucent computer graphics overlays, which increases the applicability of the overlay function.

The combination of Folk, Heidmann, Lopresti, and Fang doesn't describe a video processing engine that comprises a field programmable gate array (FPGA), where the FPGA comprises a CPU interface, a video buffer controller and a pixel processing engine.

However, White describes a system of blending two images, such as a video source and a still image, which can be implemented wherein some or all of the software is replaced by a dedicated logic circuit, such as an FPGA (column 2 lines 61-66 and column 4 lines 1-13). It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Folk, Heidmann, Lopresti, and Fang the implementation option of using a field programmable gate array, as taught by White, in order to create a more efficient video processing device where the CPU interface, the video buffer controller, and the pixel processing engine are all programmed into an FPGA, in order to create an optimized system design that has a minimal delay in completing a set number of tasks while using a minimal amount of hardware.

As to claim 22, Folk describes a system in which the system is portable. See the rejection of claim 17 for a complete discussion of how Folk discloses the described limitation.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Folk, II (US 2003/0142038) in view of Heidmann et al. (US 6,057,833), in view of Lopresti et al.

(US 6,889,506), in view of Fang (US 2004/0257369), as applied to claim 12 above, and further in view of Lin (US 5,936,683).

Regarding claim 13, the combination of Folk, Heidmann, Lopresti, and Fang doesn't describe a system in which one of the video streams is in a YUV format, and the video processing engine digitally color maps the YUV format into an RGB format.

However, Lin describes translating the YUV signal format into an RGB format using digital color mapping. For example, Lin describes a process of using color look-up tables, which is considered color mapping, to convert YUV signals into RGB signals (column 2 lines 33-67 and column 3 lines 1-20). It would have been obvious one of ordinary skill in the art at the time of the invention to include in Folk, Heidmann, Lopresti, and Fang the conversion from YUV format to RGB format, as taught by Lin, in order to use a simple and proven method of converting a YUV signal, from an analog television for instance, into an RGB signal so the telestration system disclosed in Folk can accept video signals in YUV format and can output the video signal (with overlapping telestrations) to a display device that accepts signals in RGB format. This added flexibility allows the system to be compatible with a wider range of input and output devices, as the format of the video signal of the input device can be different than the format of the video signal accepted by the output device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Washburn whose telephone number is (571) 272-

5551. The examiner can normally be reached on Monday through Friday 8:30 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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12/29/06

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